

**THE IDEA**  
of  
**SHIMER COLLEGE**

by  
**FACULTY MEMBERS**

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## Preface

This collection of statements by Faculty Members of Shimer College is intended to enrich some of the more generalized statements concerning the Shimer curriculum which appear in the catalog. The faculty statements were for the most part presented as bases for discussion at the Faculty Orientation program at the beginning of the 1969-70 academic year.

The order of presentation begins each division with a catalog statement. Except for the first item on the curriculum in general, the catalog statements are the ones describing the area and integrative comprehensive examinations rather than the individual courses, but the courses are characterized by the faculty statements.

## CURRICULUM

(From the Shimer College Catalog)

The distinction of the Shimer curriculum is achieved through a unique welding of general courses, comprehensive examinations, and specialized courses into a complete academic experience, each element of which is essentially related to the whole. The faculty is selected for its commitment to the notion that the traditional scholarly disciplines are integrated but not vitiated at the general education level.

## THE IDEA OF THE COLLEGE

Denis Cowan  
Dean of Faculty, Shimer College

### HIGHER EDUCATION AND THE ACTIVE MIND

Higher education relies upon the active mind. The active mind is sharpened in the exchange of ideas. Therefore, a college should encourage the active mind to engage with ideas.

College is a place where ideas come together. Ideas are not confined to immediate experience. Therefore, colleges should bring together ideas from the whole human adventure.

The encouragement of the mind and the gathering of ideas are the shared endeavors of the students and the faculty. That one is more experienced than the other merely assures us that the voices of other minds than those actually present are heard and heard well. Thus the ideas of Thucydides, Shakespeare, Galileo, and Kant can be present and examined along with our own.

Shimer College presents a curriculum wherein ideas are introduced, discovered, and criticized. To introduce ideas the faculty chooses very carefully some original writings which, in their considered judgment, satisfactorily engage with the kinds of knowledge that occupy our sustained attention. Choices change as options present themselves and as the faculty reflect upon the changing significance of subject matter in the relevant world at large. But freedom so to choose, with the concurrence of colleagues, is a guarantee to the teacher and the learner that what is introduced is not the choice of non-academic agencies, be they political, administrative, or religious. This guarantee is sheltered at Shimer College, but the choices of course material are not exempt from challenge by students and by faculty themselves. Such challenge may emerge in the whole context of the introduction, discovery, and criticism of ideas.

Discovery occurs best within a mode of inquiry. There is a heavy reliance at Shimer College upon the mode of inquiry generated by discussion. Discussion presumes a willingness to center the discussion upon particular ideas, and particular ideas are introduced from readings. Thus preparation for discussion requires considerable reading before class in order that the deliberations may be substantive. At Shimer College students are expected to read at least five or six hours every day of the week. With such an intake of ideas and data the discovery of fresh ideas and insights is induced. Discovery is the satisfaction of the inquiring mind, and its freshness is not a measure of its newness. Old ideas may be rediscovered or discovered to be other than what some presumed them to be.

Criticism is the application of one set of ideas to another, thereby exposing weakness or strength in one of them in terms of the other. Criticism may be tentative or audacious, and the result of criticism may be sportive or definitive, but the atmosphere in which criticism is conducted is crucial to the outcome. Scholarly criticism depends upon investigation and reflection, and Shimer College recognizes that if criticism is to be effective there must

be opportunity to establish critical modes outside of the classroom discussion. Therefore, examinations and theme writing are essential elements of the educational experience. Within the writing program and the examinations the student faces the task of supporting his discovered ideas and critical conclusions with reasoned reflection.

To enclose these volatile conditions within a fixed pattern of general courses is Shimer's concern. The pattern has three levels. The six basic courses are concerned with the development of the skills of analysis, of logic, and of rhetoric to the end that art, science, and society can be approached as intellectual and affective experiences. The remaining seven area courses broaden the base of information and investigative method within the humanities, natural sciences, and social sciences. The three integrative courses and the foreign language requirements expect some historical and philosophical principles to emerge as ways of understanding the nature of man.

The demonstration by the student that something significant has happened to his own development is not limited to courses and their examinations. Comprehensive examinations at these three levels present relevant but fresh material to be prepared independently by the student. The result is that a student at Shimer learns to function intellectually both in and out of classroom situations.

## THE COMPREHENSIVE EXAMINATION IN HUMANITIES

(From the Shimer College Catalog)

The general courses in the humanities have three principal objectives. The first is to acquaint the student with a considerable body of the best works in literature, music, and the visual arts. The second is to develop skill in interpretation of these works. The third is to give the student an understanding of some of the general principles upon which critical judgments and evaluations of the arts are made and to develop some skill in the written application of these principles.

In each course the student is required to study a selection of works in addition to those discussed in class and to prepare himself for examination upon these. Although all works are chosen on the basis of their own merits, the essential aim of instruction is not to teach the specific works, but rather to use the works as a means of developing an understanding of various modes of interpreting and evaluating the products of all the arts.

The Comprehensive Examination in Humanities seeks to test the student's ability to apply the skills in interpretation and evaluation which he acquires in the classroom to works which he studies independently, to make clear and to justify the critical position underlying his judgment of particular works, to exhibit a knowledge of some representative works of art, music, and literature, to write purposefully and with style, as developed in Humanities 1, 2, 3, and 4.

## THE IDEA OF THE HUMANITIES

Andrew F. H. Armstrong

Rutgers University; Parsons School of Design; University of Chicago, A.B. (1958); Mexico City College; University of Chicago, M.A. (1959). Chairman of Humanities 2, 1969. Shimer College Faculty Member 1959-\_\_\_\_\_.

### THE ARTIST'S ACTION, THOUGHT AND PASSION IN THE GENERAL CURRICULUM

The remarks that follow are meant to comprise a tentative, but only tentative, restatement of the purposes and ends of the general courses in the Humanities. The literature sequence of Humanities 2, 3, and 4 is the central subject, but anything said here about Humanities 2 can be applied to Humanities 1, and the ideas related to Humanities 4-A can be linked without violence to the B and C variants.

While Humanities 1 and 2 direct their attention to differing kinds of art, they share a basically identical method and goal. They move, through a structured analysis of form and content, of parts as related to the whole, toward a recognition and understanding of the artist's craft. Less than with what he has done in the plastic arts or in music or in literature, they are concerned with how he has done it. These courses make use of a special language for each, its terms rendering communicable the how brought to light through analysis.

Humanities 3 turns from craft to criticism, on the premise that once the how of the artist is established, the what can be clarified. Humanities 3 mounts interpretation on the analytical base supplied by the two earlier courses, adding the consideration of the work of art's meaning to that of its content and form. What the artist has done takes precedence over how he has done it, although the how is kept ever in view. If form-content can be said to serve as the focus for Humanities 1 and 2, form-content-meaning does the same for Humanities 3.

One might reasonably expect that a sequence beginning with analysis and moving to interpretation would inevitably settle on evaluation as the pivotal problem of the final course. While such a progression in theory may be architecturally satisfying, it tends to crumble in practice. Interpretive exercises and the study of contending aesthetic systems too often obscure the ground on which a work can be rated as good and successful or bad and a failure. Worth becomes increasingly a matter for subjective judgment; discussion breaks down.

We know that analysis can be amicably practiced, as can interpretation, in the company of one's peers. Evaluation can not. One can argue form-content and meaning while appearing to retain an openminded humility, but evaluation demands larger, less retractable pronouncements at the borders of presumption. For the student, evaluation becomes more and more a process to handle alone.

Should this reasoning so far prove sound, we cannot be expected to proceed from the how the artist does it of Humanities 2, through the what the artist means by it of Humanities 3, to the how much it is worth of a workable Humanities 4.

In our hunger, however, for order and symmetry, we cannot long be at ease with a Humanities 4 that is a mere extension of Humanities 3, simply "more of the same." If Humanities 4 is to hold its place in the curriculum, it must somehow acquire, for both instructors and students, a sharp yet meaningful difference from the other units in the sequence.

A real possibility for such a difference may have arrived in the recent history of Humanities 4. Until three years ago, several features of this last general course set it somewhat apart from the others, if only in content. First, many of its readings were the work of still-living and even very young writers. Second, the course included a grouping of other authors, old and new, each drawing his inspiration from a common spring--formerly the Don Juan legend now replaced by that of Faust. Third, a sizeable block of the calendar dealt with censorship, once a biting problem for the artist, but today an issue of rapidly shrinking size.

When censorship, from the course as from the 20th Century, faded away, whatever value it carried as a synthesizing element, as a study of the-artist-and-his-social-relations, went with it. Other cultural concerns of the artist still visible in the balance of the readings quite obviously were not his alone, since all men, artists or not, take assurance of their individual reality from the people and things "out there." Moreover, the notion that art bestows aesthetic dimension on society's abrasiveness seems tritely axiomatic and therefore feeble in the incitement of arresting and thoughtful discussion.

But our understandable lapse in attention to one integrative topic for the readings--society's policing of art--in reducing our field of view to the Faustus "syndrome" and "the new writing," rather oddly turned the course toward cohesion, not away from it: the artist's creative response to irritation could now be seen to wing home with startling frequency, not on society's actions exclusively, but on art itself.

The novelist reacts to music, and to Elizabethan drama's presentation of legend, as in Mann's Dr. Faustus. The poet reacts to painting, and to the ancient heritage of myth, as in Auden's "Icarus." While Keats stares through the ode at the urn, Ferlinghetti fixes his gaze, in "The Lonely and Isolate Satyrs," upon the monolithic newcomer-poets crowding the beach of current verse. The twenty-odd-year-olds in a Liverpool cellar string syllables on amplified guitars.

So we come--at least for the moment, since the curriculum is alive and wide open to change--to source, the artist's source of irritation. Source as a simple rubric for Humanities 4 joins with criticism for Humanities 3 and craft for Humanities 1 and 2.

An objection may arise that the idea of the artist stimulated by art itself is too narrow a consideration for a general course, that it tends to ignore his traditional preoccupation with mankind's war, inequities and other social enigmas. In answer, one can argue that a semester devoted to art deriving from art, and thoughtfully planned as to reading content, will avoid sketchy historiographical interference, and give wider, more vigorous coverage to the purely aesthetic response.



## THE IDEA OF THE HUMANITIES

T. Nelson Magill

Johns Hopkins, B.A. (1934); Cornell University, M.A. (1937),  
Ph.D. (1941); Juilliard Graduate School. Chairman Humanities  
Area, 1968-\_\_\_\_. Shimer College Faculty Member 1966-\_\_\_\_.

The "idea of the humanities" (if I may be facetious about it) is a good idea! made completely respectable by Matthew Arnold's definition of Culture: the best that has been thought and said by Man since Man began-- or words to that effect.

Mr. Armstrong has laid out for you a pattern of progressive, structured exposure to the Humanities chiefly as Literature, through the years of a student's relationship with humane studies...What I propose to talk about for a few minutes is, is there a significant--perhaps even necessary--relationship with a further curriculum, beyond the normal Humanities sequence?

Having completed a sequential study in the Humanities, the student, usually in his third year, will have likewise completed a sequence in the Social Sciences and in the Natural Sciences. At this point, the student will normally concentrate in one or more of three areas...The student choosing Humanities will concentrate in Literature. Any conjunction with Music and Art will be only peripheral. But from his brief exposure to Humanities 1 the student may feel that Art or Music is to him more vital Humanities studies than simply literature...It is here that our "total liberal education" breaks down, as I see it. A "total liberal education" in the Humanities should provide the same kind of expansion beyond set guidelines that is possible in the Natural Sciences, for example: "Science" means Physics, Biology, Chemistry, etc., in concentration courses; by the same token, shouldn't "Humanities" mean Music, Theatre, Painting, Sculpture as well as Literature and History?

With this in mind, Ben Kneale and I began working up a program of study we called CREATIVE ARTS. It was implemented into a working syllabus, after Ben's death, by other staff members and myself. The proposal was endorsed by the Board of Trustees, but suspended for lack of funds. (Could have paid for itself in one year!)

Simple plan: a concentration beginning in the third year in a "creative" area: Painting and Sculpture, Creative Writing, Theatre. Professional instruction by a post-graduate fellowship holder in each area: he to be a performer, and to teach one course in his speciality. (Room and board, studio, \$1500.)..."Learning" not only through instruction but also by example in performance: an actor in Theatre, a writer perhaps for that Theatre, a painter and/or sculptor to have work constantly on exhibit...There is no recommendation for Creative Music here, for our program now comes to an abrupt and brutal halt by the first semester of the first year. This is unfortunate; because "Making-Music" was once as vital at Shimer as extra-curricular Theatre now is. Certainly I hope it can become integral to a Creative Arts program.

Tell your Congressman to expedite CREATIVE ARTS at Shimer!

### Painting

Students majoring in painting would take one course in their major each semester for a total of six courses. Two elective courses would be in sculpture, making a total of eight concentration courses in the field of the fine arts.

There would be required readings in the history and aesthetics of art. The readings would be developed by the Department of Humanities. An examination in these readings would be given at the end of each year.

In order to graduate students would have to demonstrate their ability to accurately render the figure, landscape and still life, and show proficiency in the following skills: oil painting, watercolor, lithograph, etching, wood cut and drawing in various media. They would also be expected to master certain elementary sculptural skills such as work in clay, plaster, wood and stone.

### Sculpture

Students majoring in sculpture would take one course in their major each semester for a total of six courses. Two elective courses would be in painting, making a total of eight concentration courses in the fine arts.

There would be required readings in the history and aesthetics of art. The list of readings would be developed by the Department of Humanities. An examination in these readings would be given at the end of each year.

In order to graduate, students would have to demonstrate their ability to accurately render the figure as evidenced by a portrait, full-figure study and group of figures and show proficiency in the following skills: stonecarving, woodcarving, modelling in clay and wax, welding, bronze casting and work in fiberglass and plaster. They would also be expected to master certain elementary skills in two dimensional representation such as painting in oils, etching, woodcut and drawing in various media.

### The Creative Writing Program

Those students in the Humanities Area who elect the concentration in creative writing must apply to the Writer-In-Residence for admission to the program. Admission will be highly selective; significant samples of each student's work must be submitted along with a statement of purpose. Due to the size of the first year's program, no more than twelve students may be admitted to the one concentration course in creative writing (the Writing Workshop) offered each semester.

Each student must take four workshops in Creative Writing and two concentrations in Literature. We recommend that his two electives be taken within the Humanities Area. Furthermore, to add critical depth to the program, we suggest that the Humanities Staff develop one course per semester that is designed to examine closely the technical problems involved in major works of poetry or fiction (such courses, entitled "craft" courses at some institutions, would be available to Humanities majors; they would be variations on the motifs present in the new Humanities concentrations program).

Instruction in creative writing will take place in Writing Workshops. The workshop will be open to each duly admitted creative writing student, no matter the stage of his development or the level of his experience in writing. Since the workshops will grow from the technical and thematic problems of the students present, each workshop will present a new academic and artistic experience. Given a talented faculty member and searching students who have been developing through exposure and practice, simple repetition of subject matter seems unlikely. Similar workshop programs have been successful at Stanford and Dartmouth. Through this process the student will be exposed to the problems inherent in creating all the major forms of imaginative writing as well as to the challenge of defending or attacking a wide variety of critical judgments on such work.

The specific structure of each workshop will be determined by the Writer-in-Residence. Generally, each workshop will consist of instruction in technique and critical evaluation of original works submitted by students and the published works of professional writers and critics. The Writer-in-Residence may supplement class meetings with individual conferences.

At the end of the fourth workshop in Creative Writing the student must present to the Writer-in-Residence a thesis consisting of a collection of short stories, a group of poems, a novella, a novel, or a play. The Writer-in-Residence must approve the thesis or the student will not be given full credit for his participation in the program.

### The Theatre Arts

A realistic program in Theatre Arts (that could be offered by myself and an Actor-in-residence responsible for one course per semester) would consist of four concentrations, three of which would be required of all students in the program. The third semester would offer an elective choice.

#### Semester 1: Introduction to the Art of the Theatre. (Required.)

- a. Aesthetics of the theatre, and the history of theatre. Form. Lectures and supplementary readings.
- b. Play Production: the fundamentals of technical theatre crafts, including elementary stagecraft, lighting techniques, and scene design. Lectures and workshop.

#### Semester 2: Fundamentals of Acting, Directing and Design. (Required.)

- a. A study of acting "Methods," with exercises, improvisations, and rehearsals designed to equip the actor with different approaches to the problem of characterization. Lectures and workshop.
- b. A study of techniques of aural and visual design through which the director shapes the performance. This examination will proceed along two lines: 1) study of the writings of leading theorists and practitioners, and, 2) preparation of scenes for class presentation and discussion. Lectures and workshop.
- c. Introductory Scene Design

Semester 3: Advanced Acting (elective #1)

Training in voice-production, body movement, period styles of acting, ensemble playing, and in-depth study of characterization. Related training in fencing and modern dance.

OR

Advanced Directing (elective #2)

Teaching the actor to act: study of directorial techniques for assisting actors toward believable characterizations. Preparation of scenes for class discussion. "Prompt Book" analysis, and public performance, of a one-act play.

OR

Advanced Scene Design (elective #3)

At the end of the third semester, the student shall submit a research paper or thesis relating his CREATIVE THEATRE ARTS study and training with his study of THEATRE LITERATURE in the general curriculum.

## THE COMPREHENSIVE EXAMINATION IN NATURAL SCIENCES

(From the Shimer College Catalog)

The natural sciences program has three aims. The first is to acquaint the student with some of the major solutions to problems that man has formulated concerning the physical and biological worlds. A second aim is to acquaint the student with representative examples of different kinds of attack upon scientific problems, that is, with some of the patterns of inquiry which characterize the physical and biological sciences. The third aim is to develop in the student those skills and habits which are helpful in the comprehension and evaluation of scientific thought and conclusions.

The Comprehensive Examination in Natural Sciences seeks to test the student's ability to formulate the grounds upon which valid conclusions are based as well as the complex of methods by which these conclusions are reached, to compare alternative theories in regard to their scope and adequacy, to utilize scientific concepts appropriately in relation to the data for which they are intended, to deal wisely with scientific generalizations and with questions of the interrelationship of the sciences, to employ with understanding and with effect some of the principal conclusions concerning the natural world, as developed in Natural Sciences 1, 2, 3, and 4, and Mathematics 1.

## THE IDEA OF THE NATURAL SCIENCES

Don P. Moon

Cornell University, B.E.P. (1957); New York University, M.N.E. (1958); Nashotah House, B.D. (1965). Shimer College Faculty Member 1967.

"We suppose ourselves to possess unqualified scientific knowledge of a thing, as opposed to knowing it in the accidental way in which the sophist knows, when we think that we know the cause on which the fact depends."

So Aristotle informs us (in his Posterior Analytics). The central idea in Aristotle's conception of science was the reasoned fact. For an endeavor to be scientific not only must facts be observed but the facts must also be deducible from first principles (archai) inherent in the particular science. For Aristotle science was based upon a dialectical relationship between fact and principle using both induction and deduction. The principles central to a particular science were obtained inductively and observable facts deduced from them.

Consider for a moment a person having a headache and a high temperature who, while sitting in the doctor's office, with one leg crossed upon the other, notices the fact that his foot goes to sleep more rapidly than would normally be the case. (There might be some doubt as to the factual nature of this observation by some scientists who would demand that a measurable physiological response be substituted for the "sleepy foot" feeling.) Even if it is a fact, however, it is not scientific fact in Aristotle's sense unless the "sleepy foot" is deducible from biological principles involving blood flow and other variables of which I will have to plead ignorance.

A thorough-going Platonist might well chide me for my easy escape into ignorance, seeing in it the giving up of the ideal of the unification of all scientific knowledge into a single consistent system. Such an ideal was supported by the famous German physicist von Helmholtz (creator of the law of conservation of energy) in the following statement:

"The appointed...task of physics is thus to refer natural phenomena to unchangeable attractive and repulsive forces, whose intensity depends upon distance. The solution of the problem is at the same time the prerequisite for a thorough understanding of nature...The work of science will have been so completed only when phenomena have been traced back to the simple forces, and when it can be shown also that the given account is the only possible one admitted by the phenomena. Then this would have been proven to be the necessary way of interpreting nature, and it would be the one to which objective truth should be ascribed."

This unifying ideal of objective truth being finally obtainable in terms of forces between particles was of course at the center of the development of classical physics. This particular ideal has been discredited by the advent of quantum theory, not to mention non-mechanistic biological theories.

But it is not only this particular ideal which has been brought into question but the Platonic notion of unified knowledge and the objective scientific knowledge of Aristotle. Gerald Holton, professor of physics at Harvard University, has stated the aim of 17th and 18th century science in the following way:

"Coupled with the theme of universal accessibility of nature has been the old motivating methodological theme of an underlying---unity and singularity of natural knowledge. The paths to an understanding of nature may be infinite,...but all the paths have been vaguely thought to lead to a goal, an understanding of one nature.

"These two connected themata of unlimited outer accessibility and delimited inner meaning can be vaguely depicted by the device of a maze having in its outer walls innumerable entrances, through each of which one can hopefully reach, sooner or later, the one mystery which lies at the center."

Let us contrast this view with selected 20th century comments on science: J. Larmor (1905 -- Lucasian Prof. of Math at Cambridge)

"There has been of late a growing trend of opinion, prompted in part by general philosophical views in the direction that the theoretical constructions of physical science are largely factitious, that instead of presenting a valid image of the relation of things on which further progress can be based, they are still little better than a mirage."

Sigmund Freud (1932 -- writing to A. Einstein in the exchange of letters later published under the title Why War?)

"It may perhaps seem to you as though our theories are a kind of mythology and, in the present case, not even an agreeable one. But does not every science come in the end to a kind of mythology like this? Cannot the same be said today of your own physics?"

Warner Heisenberg (1958)

In science "the object of research is no longer nature in itself but rather nature exposed to man's questioning, and to this extent man here also meets himself."

Karl Popper (1959)

"I think that we shall have to get accustomed to the idea that we must not look upon science as a 'body of knowledge', but rather as a system of hypothesis; that is to say, as a system of guesses or anticipations which in principle cannot be justified, but with which we work as long as they stand up to tests, and of which we are never justified in saying that we know that they are 'true' or 'more or less certain' or even 'probable'."

In the minds of many scientists and philosophers the center of the maze is either empty or contains a mirror in which we see our own image.

One could go on developing and arguing the idea of the natural sciences and such a discussion might be valuable. Of more value, I think, at this point, is to raise the question which is so often asked by students in the liberal arts when they are faced with quantum mechanics, with  $F = ma$ , or with the molecular theory of gasses: "What's the idea?"

In my experience most students do not come to Shimer with a burning interest in the study of science. Science is not generally regarded as the path to the truth by Shimer students when they enter and I sometimes wonder how many have actually participated in it as a path to the truth by the time they leave.

A quote from Andrew Greeley (a sociologist at the University of Chicago) in the New York Times Magazine of June 1, 1969, is to the point:

"The extent and the depth of the revolts against positivism come as a considerable shock to those like myself whose training in the positive sciences took place in a time when they were totally unquestioned at the great universities. During the last winter quarter I put a statistical table on the blackboard and proceeded to explain the implications. One of my students respectfully but pointedly observed: 'Mr. Greeley, I think you're an empiricist. In fact, at times I even think you're a naive empiricist.' The accusation didn't surprise me because I guess I am an empiricist, but the tone did, for it was the tone of voice that used to be reserved for the accusation of being a 'clerical Fascist'.

"The student then went on to deliver a fierce harangue against 'the epistemology of science,' and to assert that the 'imperialism' of science by which it claimed to be the only valid form of knowledge ...was completely unsatisfactory to his generation."

The class was in complete agreement.

We can of course defend the method and values of science against the student attacking them--perhaps by pointing out the value of the scientific method for sharpening the mind in logical thinking, by quoting C.P. Snow to the effect that every cultured man should be acquainted with the second law of Thermodynamics, or by revealing the role played in science by the beautiful and by creative imagination.

The points we might make in defense of science can in turn be criticized--in fact one or two of them I myself believe to be totally or partially wrong. But this would be beside the point because our defense does not really meet the students' basic concerns. In the minds of many students science already has two strikes against it: 1) its mathematical formalism and 2) its involvement in a technology which is seen as often dehumanizing. Shimer students then become involved in a profound critical approach--an approach which brings them face to face with the perhaps empty abyss at the center of the maze. All this before many students have experienced--have participated in--the truth that does reside within the scientific community. ,

It seems to me that the only way the majority of students will be able to encounter this truth is if the endeavor which is science meets them on the level of their deepest needs--which is certainly not the second law of Thermodynamics.



Let me quote Whitehead:

"The solution which I am urging, is to eradicate the fatal disconnection of subjects which kills the vitality of our modern curriculum. There is only one subject-matter for education, and that is life in all its manifestations. Instead of this single unity, we offer children--Algebra, from which nothing follows; Geometry, from which nothing follows; Science, from which nothing follows; History...."

The study of Life--biology--can be the unifying discipline within the natural sciences and enable integration with the social sciences and the humanities. In particular that branch of biology called ecology--namely the science of the mutual relationships of organisms with their environment and with one another--seems to me to be the key scientific discipline in which the needs and interests of the majority of students mesh with the truth there encountered. From the perspective of the natural sciences the basic problem confronting twentieth-century man is an ecological problem. (Sr<sup>90</sup>, DDT, polluted air and water, people living together in community...).

But not only are the ecological problems significant in themselves, they lead naturally to considerations of more basic (from the standpoint of physics) scientific knowledge.

Isotopes, radioactivity, -rays, quantum theory, calculus, periodic table, genetic transformations, statistical methods, food chains.

Let me close with a quotation from Rene DuBos (professor in microbiology) at the Rockefeller Institute:

"Through its emphasis on over-simplified models, the scientific community is betraying the very spirit of its vocation--namely its professed concern with reality. Nature exists only in the form of complex ecosystems, and these constitute the environment which man perceives, and to which he responds. As human life becomes more dependent upon technology, it will become more vulnerable to the slightest miscarriage or unforeseen consequence of innovations, hence the need for studies directed to the problems of interrelationships within complex ecosystems. Science will remain an effective method for the acquisition of knowledge meaningful to man, and consequently for social service only if its orthodox techniques can be supplemented by others which come closer to the human experience of reality, and to a kind of social action designed for fundamental human needs.

"Only through a scientific knowledge of man's nature and of the ecosystems in which he functions can technology be usefully and safely woven into the fabric of society. Indeed a truly human concept of technology might well constitute the force which will make science once more part of the universal human discourse, because technology at its highest level must integrate knowledge of the external world and of man's nature."

## THE IDEA OF THE NATURAL SCIENCES

Jack L. Goldman

University of Chicago, B.A., B.S. (1958); Loyola University,  
M.S. (1961), Ph.D. (1966). Chairman of Natural Sciences I,  
1968-\_\_\_\_. Shimer College Faculty Member 1967-\_\_\_\_.

How do we organize what we experience? What William James termed the "booming buzzing confusion" around us. Defining experience as everything of which we can possibly be aware, we shall limit ourselves to that cognitive experience which leads to knowledge. Science, art (esthetic activity), and religion are three examples of how we organize our cognitive experiences. Thus, science deals with the rational aspects, art with the emotive aspects, and religion with the transcendental aspects.

Now, it is frequently claimed that science and common sense are diametrically opposed to each other. Such a claim then provides a good excuse (rather than a good reason) for "leaving it, i.e., science, to the experts" or for assuaging our possible feelings of guilt at not being "comfortable" with scientific ideas. However, if we can show students that science and common sense have a great deal in common with each other, although their purposes are quite different, then perhaps we have made a beginning at dispelling much of the mythical "strangeness" and mystery of science.

The common sense that we are speaking of is not to be equated with horse sense, which someone once defined as "that which prevents horses from betting on people", but rather is to be identified as that capacity for learning from experience which most men have and use in their day-to-day living. The acquisition of common sense knowledge is for the purpose of survival. On the other hand, the purpose of science is to find a rational and comprehensive order in the natural world about us. Having identified what differentiates these two human endeavors we may proceed to their similarities.

This can be done by considering a sequence of four mutually interacting stages in our organization of experience, as suggested by L. K. Nash. Three of these stages are common to both science and common sense, in their organization of cognitive experience. The appearance of the fourth stage in science, as a unique characteristic of that human endeavor, provides then a convenient and fruitful source of questions for the student to ponder. The identification of discrete organizational levels does not imply in any sense that the stages actually operate sequentially but merely is a convenient and useful modality of analysis.

The first stage is from stimuli to constructs, and involves active looking, i.e., "observation". We proceed from protocol experience, what Margenau has termed the p-plane to what he calls the c-field, the region of constructs. Because constructs, as their name implies, are made, constructs can be defined with a great deal of clarity. So as we pass from the p-plane, the continuum of our experience, to the c-field, on this first level of organization of our experience, we gain in exactness. Both science and common sense are active on this organizational level where much of the subjectivity of our protocol experience is removed. A common sense construct "woman"; a scientific construct "height of mercury column in a manometer" are illustrations of this first level.

The second stage is from constructs to concepts. E.g., from "woman" we proceed to "mother"; from the previously indicated scientific concept we proceed to "pressure." It is here quite often, especially in the physical sciences, that we introduce the use of numbers. Even if we do not, we still achieve a greater clarity--a higher level of organization. Since concepts function primarily as tools to help us organize our experience, we can determine only whether they are appropriate or inappropriate, fruitful or not fruitful, rather than whether they are true or false.

The third stage is from concepts to colligative relations, which latter are relations among the concepts. It is at this level that not only have we succeeded in achieving greater organization of past experience, but we now have the possibility of predicting future experience. An example of a colligative relation in the physical sciences is Boyle's Law.

The fourth stage is from colligative relations to postulational systems or theories. The emergence of this fourth level is unique to science due to the fundamentally different purpose of scientific knowledge as compared to common sense knowledge. A rational comprehensive unity is the goal of science; the passage from a vast array of colligative relations to a postulational system is the majestic unifying process. An example of this fourth stage is the Kinetic Theory of Gases. Now, all the individual relations (Boyle's Law, Charles' Law, Amontons' Law) appear as simple deductions from a relatively small set of postulates. It is at this level that we claim we "understand" or say we can "explain." It is here where the student encounters models and analogies, and attempts to gain an insight into their formulation and experimental verification or disproof.

In its progress towards achieving its own Weltanschauung, science needs to rely on certain metaphysical principles--principles not amenable to experimental verification. This "leap of faith" is a necessary step in formulating just what data or subject matter will be acceptable for scientific consideration. Whether these principles be a set which includes invariance, simplicity, and causality or a set which includes determinism, continuity, and isolatibility, it is emphatically necessary to be not only aware of their existence but also of the way in which they are used.

It may therefore be expected that a student proceeding through the four courses of the Natural Sciences sequence will develop an appreciation and awareness of these principles and of their use. At the same time, he will be acquiring an understanding of how constructs, concepts, colligative relations, and theories are developed, tested, and judged. For he will have examined not only their relation to primary and immediate experience, but also their mutual interactions and interrelations. In this way, it is hoped that the student gradually begins to appreciate the dynamic nature of science, and may perhaps agree with Einstein: "I believe that it is better to know some of the problems than all of the answers."

## THE IDEA OF MATHEMATICS

Philip S. Marcus

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## MATHEMATICS AT SHIMER COLLEGE

Part of the integrated liberal arts curriculum of the University of Chicago College under Hutchins was an experimental math course developed by Eugene Northrop and his colleagues. I had the experience of teaching this course at Chicago in 1958 and 1959 as an undergraduate teaching assistant to Professor Alfred Putnam. This was in fact my first teaching experience. As I became familiar with the course at that time, it consisted of a first quarter in symbolic logic, a second quarter in analytic geometry (taught in a rigorous, careful way based on the preceeding quarter), and a final quarter on the study of some chosen axiomatic system, the choice of which varied from year to year.

Shimer's eventual adaptation of this course consisted of a one semester course devoted in its entirety to symbolic logic. By 1966, the faculty had concluded that this course just did not work. It was characterized by David Weiser, Nat. Sci. Chairman and former Dean of Faculty, as "an experiment that had failed." I personally did not agree with this, because I did not think that the truncated one semester course taught at Shimer was a fair version of the original experiment. Nevertheless, it was proposed at this time to scrap the math course entirely, and include math in the physical science course, Nat. Sci. 3, as needed there.

It thus became necessary to convince the Faculty that mathematics was indeed a necessary part of an integrated liberal arts curriculum, and to design a new math course that the Faculty would accept. A first, tentative version of this new math course has now been taught at Shimer for the last two years. It should be emphasized that the course as it has been taught for the last two years was never meant to be a final version, only a first step. It should also be mentioned that the course has not been taught and administered in the most efficient and well-organized way, but rather has been taught and administered in an open and exploratory way with an absolute minimum of staff discipline and an absolute maximum of freedom and creativity for the individual staff member. This is not to imply that there is great friction and divergence in the Math 1 staff! Quite the contrary, there has been a fine atmosphere of harmony, cooperation, and mutual respect. It is just that we realized that this was a new, untried course, that we didn't have any final answers on it and that differences in individual approach would be a good way to explore the possible ways in which the course might work.

The course, then, in its first tentative version, may now be described. It reflects its Shimerian host environment in two significant ways: first, original readings are included (in translation) and form a basic part of the course; second, the intrinsic intellectual line of development contains a historical, even chronological dimension without being a historical development. In broad outline, the course starts with Euclid

and the basic concepts of Euclidean geometry as a deductive discipline, continues with Lobachevsky and the basic concepts of non-Euclidean geometry, continues with a non-Shimerian study of the computational techniques of analytic geometry (Descartes may or may not be read at this point), and concludes with a study of the mathematics behind special relativity (Einstein has not been read at this point, but he will be in the future....his popular works, not his research papers).

This course serves several "integrative" purposes. First, by studying the logic of Euclid and the contrast of non-Euclidean geometry, we meet our obligations to the Logic Comp, or what is now the logic component of the basic ALR Comp. It is true we spend less time on this than the previous course, since we are also doing other things. It is also true that the present course does not maintain a connection with rhetoric as did the previous course. However, I take the Faculty approval of this new course to indicate a judgement by the Faculty that the connection between mathematics and rhetoric was not important enough to preserve the previous course. I myself feel that any connection between mathematics and rhetoric is necessarily forced and artificial, unlike the relationship between mathematics and logic, or, for that matter, between mathematics and natural science, or even between mathematics and metaphysics, epistemology, and ontology.

Second, the study of the mathematics of special relativity is very useful background for Nat. Sci. 3 and Philosophy 5, as special relativity is considered in both these courses. I have not yet gotten any report or consensus on the effect of the new Math 1 on these two courses.

Third, the inclusion of analytic geometry makes the course a more honest and useful prerequisite for Math 11 (calculus) and further work in mathematics or science.

Now, the present status of Math 1 has been described. But it has been stressed that this status is temporary, and that this is only the first stage of the experiment. I assume that the experiment has been successful these last two years, and that the basic idea of the course has faculty approval. But what of the future development of the course?

For the immediate future, I see simply a deepening and refinement of the treatment of the basic, unifying concept of the course---the concept of "transformation". Don't forget, the course has essentially been changed from a logic course to a geometry course. That the transformation concept is the most basic concept in geometry is a view first taken by Felix Klein in his famous Erlangen lectures of 1871. In those lectures, he gave his famous definition of geometry as the study of invariance under transformation. This point of view has become increasingly influential in both mathematics and physics since that time.

This deepening and refinement implies the addition of two new topics. First, projective transformations (these have already been tried out in the course by Tom Burgess): Projective transformations arise naturally from the Renaissance creation of the theory of perspective in painting. The basic problem is: How do you convincingly represent three-dimensional space on a two-dimensional piece of canvas? Note that distance does not remain invariant. Neither does parallelism. What does? Euclid goes out the window. An entirely new geometry is created---projective geometry.

Second, the explicit study of transformations, or "transformation geometry" (Euclidean): Transformations have been "behind the scenes" all throughout this course, but have not always been dragged onstage and made explicit. For example, Euclid's theory of congruent triangles involves the "method of superposition" in which he "places one triangle on top of another" ---without any axiomatic justification! There is a famous quote from Bertrand Russell: "Superposition strikes every intelligent schoolboy as a dishonest juggle." What Euclid is really doing, although he may not have realized it, is transforming one triangle into another by a translation and rotation (and possibly a reflection). But these translations and rotations, and reflections are themselves worth studying explicitly. They are more interesting (and more important) than triangles!

Finally, there will be a slightly different approach to special relativity. There will be new readings in which Lorentz transformations are emphasized even more than they are now.

This is for the immediate future. But there are many different possible directions for long range future development. I will discuss just some of them.

First, there has been a certain "popular ground swell" for the reinclusion of symbolic logic. This comes especially from students and faculty not familiar with the previous course and not acquainted with Faculty action with respect to the previous course. In fact, this is not out of the question, and Tom Burgess has moved the course a step in this direction by trying out original readings in George Boole, one of the creators of symbolic logic.

There would actually be a very nice way of tying symbolic logic into the course. The course starts with Euclid's axiomatic method. If the course concluded with the Nagel-Newmann popularization of Gödel's proof, then the course would appropriately conclude with the twentieth-century discovery of basic limitations in Euclid's axiomatic method. But there is a danger in this approach.

The danger is that if the course tries to do many things in a limited amount of time, it may become a cafeteria-type survey in which everything is done superficially and no time can be taken to do one thing well. I do think that if the existing geometric content of the course were efficiently compressed, it would be possible to include such a really new topic without losing what we already have and dissolving the bonds of unity which now tie the topics of the course together. But this cannot be done right away. It requires a period of efficient consolidation of the existing topic content.

A second tempting future possibility for the course would be to try to do quantum mechanics as well as special relativity! This would be of great benefit to Nat. Sci. 4 as well as Philosophy 5, and so would tie the course even more closely into the rest of the curriculum. I do not think that anyone has ever successfully taught the mathematics of quantum mechanics to non-mathematicians. All the more reason to try it at Shimer! In fact, I think there may be a nice way to do it with  $2 \times 2$  matrices. Michel Nicola and I may look into this. Needless to say, this is all highly speculative!

A third possibility which would appeal to the Social Sciences is to bring in probability and statistics. It is not at all clear how this would fit into the present course, but it is certainly worth thinking about.

Finally, it is always a temptation in a first general course to try and do an introduction to calculus. There are many ways to approach this, and any one of them would fit well with Nat. Sci. 3, although Nat. Sci. 3 seems at present to be moving away from this direction.

This is perhaps enough to indicate that the course is flexible and open, and that the version taught these past two years is only meant as a foundation for the future. It would of course be easy to do all these things at once with a full year course rather than the present one semester. But I am firmly committed to the present one semester requirement, because any expansion of the general program means less room for concentration courses, and this is unfair to the professional preparation of many students. I am on record as believing that the professional preparation provided by concentration courses is equally as important for Shimer as the intellectual orientation provided by the general courses.

## THE COMPREHENSIVE EXAMINATION IN SOCIAL SCIENCES

(From the Shimer College Catalog)

The four general courses in this area are designed to acquaint the student with the major methods and results of the study of man in society and to train him to apply this knowledge to rational deliberation about social policy. One purpose of the social sciences curriculum is to give the student a scientific understanding of his own and other cultures and of how the individual comes personally to learn and embody the norms of a given culture. A second purpose is to teach something of the historical development of democratic institutions, ideas, and values. A third purpose is to analyze and clarify the kinds of problems involved when society or the individual tries to apply theoretical knowledge to social actions. Although each of the courses contributes something to the achievement of these major purposes, they are so arranged as to make the student's progress both cumulative and cyclical. The several disciplines of the social sciences and of social and political philosophy are drawn upon throughout the sequence.

The Comprehensive Examination in Social Sciences seeks to test the student's ability to analyze accurately some important events and issues in American history and in the situation of the United States today, to employ objectively and effectively a variety of conceptions dealing with personality formation and cultural constraints, to judge the relevance of social science knowledge to policy action and to the rational choice of ends, to deal critically with the theory and practice of alternative social systems in their implications for freedom, for unity of purpose, for formulation and implementation of public opinion, and for economic action, as developed in Social Sciences 1, 2, 3, and 4.



## THE IDEA OF THE SOCIAL SCIENCES

Barbara Bowdery

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## GENERAL EDUCATION IN THE SOCIAL SCIENCES

The Shimer College commitment to general education in the social sciences as in other areas is clear. In this commitment and in this tradition are found the distinctiveness of a Shimer education and an important source of loyalty to the college.

This paper is an attempt to distinguish some goals or purposes by which general education is justified and then to comment upon the Shimer general education courses in the social sciences in terms of these goals and purposes.

Any analysis and evaluation of general education in the social sciences must necessarily occur within the context of the goals and aims by which general education, as opposed to education in a discipline, is justified. The comments comprising this paper will focus on three sets of goals or aims: 1) the value of imparting a humane tradition of learning about society, of men's relations to each other, 2) the undesirability of teaching factual knowledge which will rapidly become outdated or even obsolete and the desirability of teaching the intellectual skills appropriate to present and yet-to-be-discovered knowledge, and 3) the importance of education for life--for citizenship in a society in which ordinary citizens are called upon to form and express opinions upon a variety of issues.

1. It has been suggested that a civilized and cultivated man should have some acquaintance with some of the great ideas which have helped to shape modern society. Furthermore, it has been asserted that the wise and cultivated man should be aware of significant issues confronting our society, and in addition he should be able to recognize valid evidence relevant to a particular issue and to make judgments, wise ones, about them. This view assumes that there is a traditional core of significant ideas and issues which have shaped history.

Certainly the Shimer student has the opportunity and is invited to share in this heritage by reading and discussing some of the great ideas and works in political and social theory. The contributions of Aristotle, Rousseau, Locke, the Federalist Papers, Tocqueville are examples of works with which a well-educated and cultivated person should be acquainted. The relations between an individual and his society manifested negatively in the breakdown of 'community' and the rise of 'mass society,' especially in the urban environment, in 'alienation,' in the 'generation gap' are inescapable issues in many forms confronting society. Problems of international relation, of government in economic life, of the role of pressure groups in the body politic are surely among the most pressing of our times, as well as of times past. The ability to discourse intelligently about these matters, from both theoretical and practical standpoints, distinguishes the liberally educated person.

Of course there are differences of opinion about the particular ideas or issues which are most important. The content of Shimer College general courses in the social sciences necessarily reflects the judgment of those teaching the courses concerning the importance and relevance of particular issues and ideas. Within the area there is always some diversity of views on these matters; the final selection of issues and ideas to be included involves compromise and adjustment among faculty. Nevertheless, I believe the Shimer general courses in the social sciences admirably fill the function of acquainting the student with many of the important issues and ideas and of enabling him to recognize and analyze valid evidence concerning them. General education in the social sciences at Shimer can indeed be justified as a means of sharing in this civilized tradition.

2. Many educators assert that the knowledge 'explosion' is so rapid that it is impossible to keep pace with it; facts learned in college may be superseded by new knowledge and new facts by the time the student reaches graduate school. Therefore, it is reasoned, the important thing is not to teach facts which will rapidly become obsolete, but rather to teach a student how to arrive at new theories, how to analyze, evaluate, ask questions, judge competing sets of evidence and explanation. Put somewhat differently, undergraduate education is not intended to impart specialized knowledge, but rather it should equip a student to deal intelligently and effectively with specialized knowledge in graduate school or at some other later date. One should learn how to learn. Given this justification for general education, do the Shimer general courses effectively fulfill this function?

Of course a definitive answer to this question would involve extensive inquiry into educational techniques, perhaps including experimentation, over a considerable period of time. Here one can only offer brief comments and suggestions.

New knowledge is built upon old knowledge; the discovery of new knowledge and the invention of new theories do not occur in isolation from what others have already done. Therefore, understanding and mastery of existing learning in particular areas is essential preparation for inquiry at the frontiers of knowledge.

Some educators assert that a distinctive function of general education at the undergraduate level is training in the skills of inquiry. The study of method, of theory construction, of the roles of competing theories enable a student better to understand processes of generalization concerning empirical data. This sort of study, when applied to already existing theory, is held to be particularly useful in preparing a student effectively to handle the rapid increase in knowledge in his later specialized courses or research in a discipline.

How do the social sciences area general courses fulfill these goals? Insofar as rapidly increasing new knowledge is built upon already existing knowledge, the Shimer general education courses do indeed satisfy this requirement for later specialization. Insofar as general education should encourage the development of the skills and methods of inquiry for later specialization, the situation in the social sciences is somewhat different from that in the natural sciences. The social sciences possess a smaller body of abstract and universally accepted theory than the natural sciences. It is perhaps more important for the understanding of societal changes, of particular situations in some area of society now and in the future to acquire some generalized comprehension of the institutional framework, now and in the past, of particular elements

The problem of selecting the particular areas or institutions of a society for more intensive study in the general courses then arises. The particular areas of society which are in fact incorporated into the Shimer general courses reflect the best judgments achieved through compromise and consensus, of those teaching the courses at any given time.

General education in the social sciences at Shimer includes little current systematic theory, except in Social Sciences 3 in which a modest amount of current systematic economic theory has recently been incorporated. Perhaps it would be useful to experiment a bit in this direction: an increase in the amount of more conventional and widely accepted systematic theory introduced into the social sciences general courses may well prove to enhance the analytical ability of students when they confront particular issues in social, economic, and political life. Abstract theory may well be highly relevant to present and future social, economic, political situations and problems. It is, however, difficult for an area staff to make the kinds of deletions of existing course readings in order to make room for even a small amount of more systematic, and conventional, theory in the social sciences.

3. Another justification for general education in the social sciences is embodied in the education-for-life view. It is asserted that the real purpose of education is to prepare the individual for life--to enable the student to develop into a humane and civilized citizen. Obviously this goal is broad and demanding, and many words could be written to develop this view. I should like to confine my comments to two points. First of all, for the encouragement of the personal qualities of character which are humane and civilized the tradition of liberal learning embodied in the Shimer social sciences general courses is particularly relevant. There is a cogent case to be made for the study of some of the great ideas of political philosophy and of theories concerning the relation of the individual person to the social structure in which he finds himself. Such study can have a civilizing and humane influence upon young men and women. These intellectual traditions, in the social sciences as in the natural sciences and humanities, mark the cultured man of liberal education. Such an 'education-for-life' is appropriate for one in any profession or occupation and is independent of particular skills or specialized knowledge such a cultured man may develop. It is perhaps important to note in this connection that this education is not to be confused with a tendency to dilettantism or amateurism.

This view of education for a civilized and humane life as a general goal of liberal learning is actually closely related to the function of imparting a tradition of liberal learning in the social sciences discussed earlier.

A second comment I should like to make concerns the education-for-life of a citizen in a basically democratic state. The citizen is called upon through his vote and in other ways to make known his position upon particular issues as they arise. Should slums be cleared and high rise public housing, set in large grassy areas, be built? Should we always strive for a balanced federal budget--or, if not, why not and when not? Can the balance of power concept usefully be applied to the situation in southeast Asia, and, if so, what consequences would likely follow? These are examples of the vast range

of questions about which citizens are called upon to have an opinion. Unless there is some factual information and basic conceptual knowledge available to the citizen he has little foundation upon which to take an intelligent position on public issues.

One of the criteria used by the social sciences area staff in selecting subject-matter for inclusion in the general courses is in fact their relevance to contemporary public problems or issues. This is, of course, not to say that this is the only or the most important criterion of selection of materials, nor is it to say that all the most important issues at a particular time are directly studied. But the notion of education for intelligent citizenship is an important justification for general education in the social sciences, and does in fact inform the Shimer program of general education in the social sciences.

This paper has commented upon the Shimer program of general education in the social sciences in terms of three basic goals or functions. Other analysts may justify general education in other terms, or they may wish to redirect the perspectives embodied here. However, any discussion must take account of the particular social and historical situation in which it finds itself. This is the reason for the emphasis that the particular ideas, concepts, and issues included in the Shimer courses are a product of adjustments and compromises on the part of the area and course staffs. Continuous critical assessment of particular content selected for inclusion in any program of general education in the social sciences is essential. Only in this way can general education remain relevant, alive, and a truly humane and civilizing force.

Two questions form an appendix to these remarks:

1. What is the proper proportion of a) general education and b) specialized education in a discipline?
2. How intensive should general education be? Are large assignments, with emphasis upon general ideas and concepts preferable, or should one engage in relatively more exhaustive analyses of fewer readings?

## THE COMPREHENSIVE EXAMINATION IN HISTORY

(From the Shimer College Catalog)

The integration courses are designed to guide the student to the realization that his world extends beyond his immediate environment of time and thought. The object is not to indoctrinate the student to any one attitude, but to provide him with the problems, materials, and variety of viewpoints with which civilized man, throughout history, has had to work in arriving at relevant notions of order.

The role of history in the general curriculum is not confined to the courses in History. Some problems of political and social history are involved in Social Science 2, the historical development of the arts is not neglected in Humanities 1, and the disciplinary history is deliberately a part of the structure of Natural Sciences 1 and 2. Moreover, the analytical skills developed in Social Sciences 1 and Humanities 2 are appropriate tools in the study of history.

The Comprehensive Examination in History seeks to test the student's ability to discuss critically some important epochs in the growth of Western civilization, to compare particular formulations of history, to analyze chronological and casual relationships, to maintain and defend a valid viewpoint concerning historical situations of which he is expected to have adequate knowledge, as developed in History 5 and 6, in Social Sciences 1 and 2, Natural Sciences 1 and 2, and Humanities 1 and 2.

## THE IDEA OF HISTORY

Stephen V. Fulkerson

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The topic here being The Idea of History, I am somewhat anxious lest one of you, one day in the library (not altogether a strange place for anyone in this audience to find himself) come across R. G. Collingwood's book of the same name and conclude he has been stealing my ideas. And so I wish to absolve him of such a crime--since he wrote the book thirty years ago!

Around a college, history may be thought of as another subject like accounting--to be learned; or something like "moral philosophy," not just to be learned but to be studied for reasons outside itself. Perhaps the difference lies in whether history is an end or a means to something--a vehicle for improving one's understanding, for instilling nationalism, Protestantism, liberalism--or rationalism; and the opportunities for abuse become enormous. When anyone starts claiming that "history proves," almost anything can be proven!

If we seek to avoid this morass and limit history as accounting is--a subject to be learned--we face immediately two difficulties. One is the vocational one, namely that our students gain a right to expect employment when we are through with them, and this has a distorting effect on our subject. We find ourselves teaching what the student wants--or anyhow what his employer wants--irrespective of truth or accuracy.

This is not unassociated with the second, namely that we do not have anything in history like basic principles--as in accounting--universally agreed to; and hence, almost anything can be offered in the classroom and defended as history--or condemned as unhistorical by such a character as Max Rafferty, whose preference I judge it would be to have the Veterans of Foreign Wars take over the responsibility for managing the content of history courses.

We might ask, "How did this come about?" and explain very simply that at every turn we have two histories, which may be something in the nature of having two wives. The very devices used to keep one amenable are exactly what disconcerts the other one!

First, we have history in the sense of what happened, with the historian the person who studies it. He is the counterpart of the paleontologist studying paleontology, whose problem is to find enough material--and gain enough experience handling it--to be able to describe the course of events and at least in some measure to explain them.

Second, we have history as a work of art, the counterpart of Michelangelo's portrait of Moses with its tendency to crowd out all other representations--not, however by reason of its accuracy but because of its appeal. And, just as none can say how Moses appeared in reality, none can say that your or my picture of him is inaccurate or does him an injustice; and similarly, none can say concerning thousands of instances that have got into HISTORY whether these are more than the work of a skilled contriver which "make sense" and "seem real."

For the reason that the causes of those developments the paleontologist studies lie wholly in the realm of nature, he very seldom, perhaps never, has to meet the problems the historian does--who only now and then can account for what occurred through an earthquake, a plague, a shipwreck, a severe winter, and the like. Instead, the events we call "historical" took place in a man-made environment not subject to laws and regularities and generally not understandable at all except as the artist functioning in a historical guise contrives some species of structure and backdrop and dreams up rationalizations clever enough so most of us feel foolish if we challenge him.

It is true that other scholars, working in the social environment--which is the world men make for themselves--face the irrationalities and uncertainties of people. But not essentially in the past. The anthropologist may contrive for us an account of the Hopi Indians; but the Hopi still exist and are available to further study--as a check upon both fantasy and exaggeration--whereas the restrictions upon what an author may say about a medieval manor leave him some large liberties which the absence of manors in this day and age do not prevent.

So then, what history must we be concerned with in a college such as Shimer? If we reject history-as-accounting, then we must face the reasons why we bother with it at all--and the question, why not eliminate it?

We bother with it because we see it as a means to perhaps more than one thing--an awareness of its pitfalls, some measure of wisdom in the evaluation of human motivation, skill at juggling more variables than anyone can really handle in a formal system. We also bother because we know that to abandon history is equivalent to throwing the law out of the window--it will bring more evils than we now have.

In addition we are committed to the proposition that history is a serviceable vehicle of integration; besides being a subject for study in itself, it gives us a way of study for use in approaching other fields. Hopefully, because it is an art while at the same time making much of its regard for objectivity and of its claim to certain knowledge, because it employs scientific data where it can come by them and enjoys a measure of prestige among political scientists who borrow some of its mythology and findings--and it could be also because historians avoid offending important people; hopefully I say, to employ a current solecism, we have seized upon history as a sort of scholastic arche-type. We have a belief that students can exhibit here, better than in certain other areas, a wide diversity of learning.

## THE COMPREHENSIVE EXAMINATION IN PHILOSOPHY

(From the Shimer College Catalog)

The integration courses are designed to refine the student in certain disciplines of thought which are more general than those with which the area courses are concerned. These disciplines therefore are capable of performing an integrative function. Nevertheless, sound pedagogy requires that the principal attention in these courses be given, not to individualistic personal integration, not to sweeping intellectual integration, but simply to the precise application of the discipline under consideration.

Works written by philosophers are studied throughout the curriculum, appearing, for instance, in Natural Sciences 1 and 4, in Social Sciences 2 and 4, in Humanities 3 and 4. In all general courses appear situations rich enough for philosophic analysis. In orienting himself philosophically, the student's task is to build a comprehensive view of all of his college work. To assist in making this possible, Philosophy 5 is offered only in the fall term, while the comprehensive examination is given only in May. A special reading list calls the student's attention to materials from the whole curriculum which should be given emphasis in his preparation for the examination.

The Comprehensive Examination in Philosophy seeks to test the student's ability to adopt for himself an intellectual stance and a philosophic mode which can ably deal with the assumptions, the comparisons, and the consequences, implied and explicit, surrounding major works of the philosophic enterprise. The examination presumes experiences in dealing with the organization, methods, and principles of knowledge as developed in Philosophy 5 and in all of the area general courses.



## THE IDEA OF PHILOSOPHY

Denis Cowan

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The integrative course in philosophy, entitled Organization, Methods and Principles of Knowledge is a direct descendant of the longer course at The University of Chicago of the same name. Like Mathematics I it was in recent years subjected to revision in the face of a threat to its continuation in the general program. In 1966-67 it was offered under a new structure which was to introduce chosen topics of time, space, and causality presented by modern thinkers and then in each case followed by ancient and classic treatments of the same topics. This renovation of procedure changed, not so much the actual readings, but their order and emphasis. Essentially it remained a kind of philosophy of science course.

Building upon the renovations, the current form of Philosophy 5 adopted more carefully the principle of beginning each topic with a modern thinker. Rather than maintaining a largely scientific concern this formulation of the study has turned toward three general points of view commonly occurring in the philosophic enterprise, ontology, epistemology, and cosmology. In recognizing the similarity between this division and those attributed to philosophic practice by such divergent minds as Kant and Carnap, the course could further qualify ontology as the study of affective being, epistemology as the study of perceptive reason, and the study of cosmology as speculative universality. Another way of characterizing the different topics is to suggest that our attention in the first instance is directed to the givenness which conditions our experience, in the second to the structure of the experience itself, and in the third to the implications of structured experience beyond itself.

The three topics are recurring. That is, the course normally deals with three presentations of the topic, moves to the second with three and then to the third with three presentations. Thus the first topic, ontology, includes Buber's, I and Thou, Aristotle's, Metaphysics, Book IV, and Descartes's, Meditations. The second grouping for epistemology includes Russell's, Our Knowledge of the External World, Aristotle's, On the Soul, Book III, and Hume's, Treatise of Human Nature (selections). The third grouping for cosmology includes Einstein's, Relativity, Aristotle's, Physics, Book VIII, and Newton's, Scholium along with Heisenberg on the Quantum Theory. The three topics are then repeated. Ontology confronts the Abraham paradox of Kierkegaard, the Symposium of Plato, and Kant's, Metaphysics of Morals. Epistemology is studied in Kant and the Symbolism of Whitehead, Einstein and the Meno of Plato, and Kant's, Critique of Pure Reason. Cosmology is approached through Whitehead's philosophy as described in Part III of Adventures of Ideas, the Timaeus of Plato, and Kant's, Prolegomena to any Future Metaphysics. The final two sections, are not as clearly differentiated because they concentrate on the writings of Peirce, Bergson, James, and Whitehead without so much topical polarity as the others.

With regard to the philosophy course's function as integrative for the curriculum this is perhaps better said in its relationship to the philosophy comprehensive examination. The course itself requires as prerequisites the entire span of area sequence courses in Humanities, Natural Sciences, and Social Sciences. This in itself indicates that the generalizations and abstractions appropriate to philosophy must, after all, be derived from and consistent with more particular knowledge. The expectation is for some assured and independent skill in moving through philosophical problems. The comprehensive examination goes beyond the course requirements and examination, however, and it is in the preparation of and involvement with the comprehensive examination in philosophy that the college faculty examines the ability of the student to deal independently with philosophy in its relation to areas of social, scientific, and artistic thought. To do this probably requires that faculty members from area staffs be added to the committee preparing and grading the philosophy comprehensive examination.

## THE COMPREHENSIVE EXAMINATION IN FOREIGN LANGUAGES

(From the Shimer College Catalog)

The integration courses are designed to give the student perspective into himself and his culture. Such perspective is given depth by giving it contrast. Through the study of a foreign language the student receives a fresh view, not only of the linguistic base of culture, but also of the thought of a people. Perspective, of course, is not easily taught, but it is the purpose of the integrative courses to provide vantage points which may evoke that perspective.

The Comprehensive Examination in Foreign Languages seeks to test the student's ability to read the language with intelligent comprehension, and to place the language and its related culture in a framework, as developed in Foreign Language 1, 2, 3, and 4.

## THE IDEA OF THE FOREIGN LANGUAGES

Dennis Wickman

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### THE ROLE OF FOREIGN LANGUAGES IN A SHIMER EDUCATION: AN APOLOGY

Lass die Sprache dir sein, was der Körper den Liebenden; er nur  
Ists, der die Wesen trennt und der die Wesen vereint.

If I begin by quoting Goethe's and Schiller's Xenie "An den Dichter," I am not doing so only to show off my German. Nor do I think that the Weimar Classicists' view that language, like the body for lovers, is the only thing which separates people's essential beings but also the only thing which unites them, somehow clarifies the nature of all disagreements which may divide the Shimer faculty. The problem of the foreign languages is surely not the only thing upon which faculty members disagree, and its successful resolution would also probably not unite them in complete harmony.

Goethe's and Schiller's advice to the poet has even a broader relevance than that. The researches of structural linguistics and anthropology, the assumptions (or, to some, biases) of some schools of modern psychology and philosophy, and the perennial orientation of literary scholars all seem to support the notion that not only poetry but all serious intellectual progress in the humanities and social sciences and perhaps in other disciplines as well is impossible without some precise notion not only of the cultural relativity and somewhat arbitrary structure of language in general but also of the peculiar qualities of the language in which work is being done. It is a nice irony that a great deal of the support for this idea has proceeded directly from impulses provided by those archrivals of Weimar Classicism, the German Romantics--people whom Goethe was fond of describing as "sick." You never know, I guess, what may turn out to be relevant in the end.

I do not believe that it is possible to know much of the peculiar qualities of one's own language without some active, practical knowledge of a second. To quote Goethe again, "Wer fremde Sprachen nicht kennt, weiss nichts von seiner eigenen." If language is the body of thought, the vehicle to which thought must continually subject itself but without which it would be impossible, the awareness of one's own language which comes from a practical knowledge of it alone is, however useful, somewhat limiting. How can you come to know your own sexual identity if you have never been exposed to the opposite sex? Even if it should turn out in the end that he doesn't care to take up with women, I think every boy should meet at least one girl in his lifetime, and vice versa.

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How many people, you may well ask, must be forced to subject themselves to the charms of the opposite sex? Well, how many Europeans have to be convinced that the knowledge of a foreign language is an important intellectual acquisition? There are probably about the same number of people in each group. American linguistic isolation may explain the rough going language learning has had in this country over the years. I believe it is a form of provincialism which, because of progress in travel and communication, is rapidly disappearing. Theoretical resistance to the language requirement seems, from my limited experience, to be far more prevalent among Shimer faculty members than among Shimer students. Try, on the other hand, to get some Shimer students actually to study a language. But that is no argument. Try to get some Shimer students to run around the block.

Is requiring a language a good idea? I am not personally sure that requiring anything in an absolute fashion is always a good idea, but in a context in which every other study is required, I do not think that there is any other way to keep any department operating. Languages are, on a day-to-day basis, often more onerous to students than other kinds of work. I think the actual requirement of language learning should only be discussed in the framework of the general issue of the harm or good done by requiring courses in any field. Consensus at Shimer seems to be that it is a good thing; therefore, requiring some practical confrontation with some foreign language, if you are going to offer foreign languages at all, is probably also a good thing.

Of what kind should this confrontation be? I do not find the two main utilitarian approaches very satisfying even on a theoretical level. The view that foreign languages and mathematics are good intellectual disciplines smacks to me too much of the philosophy, "I had to do such-and-such when I was a kid, and, by God, it won't hurt you to do it either." Most mathematicians I know feel the same way about this justification of mathematics.<sup>2</sup>

It is true that some experience with a foreign language is useful for admission to and success in graduate school. Scholarly work is aided and abetted in most fields by being able to read at least French, German and Russian. Yet I do not think this should be the primary aim of language learning. "By their fruits ye shall know them," but in the beginning, it is best to attend to the needs of the tree. It might, for example, be a good idea to adopt the ETS language testing service, not primarily because it may meet with some recognition from graduate schools but more because it can separate the testing from the teaching process in a one-man department. It can also help to provide the teacher with a realistic set of objectives which optimism might place too high or defeat and despair might place below the level of acceptability. But the actual nature of the confrontation with the language should not be determined by this kind of consideration. I do not believe it is used in setting up general courses in other fields, and it would be illogical and inconsistent to argue for this academic course alone as a means to a post-Shimerian end when all others are treated as something of potential value to the students so long as foreign language learning actually can (and, I think, does) have some intrinsic value.

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<sup>2</sup>"Discipline" is a word which has, in any case, been somewhat corrupted since the sado-masochists have begun using it in classified advertisements.

Thus, a modern language teacher who has studied the language himself because he finds it not only useful but also interesting and important, will find it frustrating and self-defeating to teach a student "how to read," i.e., how to translate. For most non-artistic products which the student might actually end up reading, there are decent translations available. A professional translation of even works of art is usually better than what a student may come up with after two short years of translation exercises. This approach to language teaching is like asking an artist to organize a course in painting around a paint-by-number program. You'll end up with a lot of pictures hanging around, but it might be reasonably argued that the student has missed the point. Likewise, I think it is better to have language students reach a level at which they can actively use the language as it is spoken than to have them produce refined imitations of translations which are done by someone who really knows the language. Not that translation cannot be at times a pedagogical necessity; it is as an aim that it is inferior. The student should be pursuing carnal, not abstract, knowledge of the language.

To continue the erotic imagery, a Shimer student is not likely, after two short years of study, to end up in the form of psychological wedlock known as bi-lingualism. Yet he can learn the basic structure of the language, acquire a minimal active vocabulary, and come to know whether further work with the language is desirable for him. He should be able to read most scholarly prose with a dictionary. He will have read some literature in his beginning courses. He will be able to go on to read more, should he so desire, with some knowledge of the difficulties involved and the means of solving them. He will be very suspicious of translations, as a rule. He will be existentially, as opposed to abstractly, aware of the arbitrary, if systematic, nature of linguistic structure and should be a bit more conscious of the limitations and possibilities of his own language. Should he really get involved with the foreign language he may end up writing worse English prose than before. You can't have everything.

A foreign language is a very intricate and complex thing. I was once told by a student, "I have studied German, but I just hated learning the grammar. I'd like to learn some more, but I only want to read the literature. I want absolutely nothing more to do with German syntax." Another suggested that language teachers could easily save pain by working around the exigencies of syntax. "I spoke German not absolutely correctly in my last course, but you could understand me if you put your mind to it, and this teacher really annoyed me by continually pointing out that I didn't know the grammar." With no knowledge of the personal situations out of which these comments emerged--there may have been some bad teaching at work in both cases--I should say that the views represented are charming in their naivete but not much to work with as educational principles. There are better and worse ways of teaching syntax, but it has to be done somehow. A working vocabulary must be acquired. And I know of no effective method of attaining either end that does not take time.

Shimer is comparatively stingy in the amount of time it gives its required language courses. It make up for this by being generous with claims made for the courses' contents. I am not suggesting that either must be changed--no one seems really to have enough time, and, students, required to take a language, are usually happy if they don't have to do everything the catalog claims they'll be doing. None of my students in German 3 has, at least, approached me with the complaint, "When are we going to start doing our selected readings about life and culture? Why are you going over the grammar and vocabulary of German 2?" In any case, the frequent use of "selected" and "some" makes the catalog descriptions flexible enough to counter this kind of criticism fairly adequately.

Faculty expectations, however, should be modest. In two three-hour year courses, a student may be expected to get some fundamental knowledge of a language which may not be either terminal or all-embracing. If he can understand most of what is said to him in conversations, understand everything he reads, given a dictionary and plenty of time, and say almost everything he wants to say without making so many errors that a native speaker would have no idea what he is talking about, that is already a great deal. I hope I have clarified what the wider significance of this practical knowledge should be at the beginning of this report. And I think that this broader significance permeates to some degree many aspects of the student's thought processes, if neither so immediately nor so obviously as, say, a reading of a play by Shakespeare in a humanities course may contribute to some understanding of an existential philosopher or a historical movement.

On the other hand, some students do, after two years, have a working knowledge of the language. It seems a shame not to use it. There might be ways of doing so in formal course work in other fields which would be profitable for both the student's knowledge of the language and for his work in the second field. The specialty for which the carnal knowledge of a foreign language is most essential is literature, followed at a short distance by philosophy and history. At Reed College when I was a student, all literature and humanities students were required to take a third-year concentration course in the literature of the studied language. A required third-year literature course for humanities students might have the added advantage of expanding the course offerings somewhat, which seems to be a most effective way of expanding the scope of intellectual work that goes on at Shimer. Language teachers can also be recruited to teach something else as well. Even this simple personnel overlap can do much toward integrating one study with another as it seems to have done in other fields at Shimer.